

# **Multiprofessional experiences concerning leadership in the trauma team – a qualitative study**



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## **Abstract**

### **Background:**

Trauma is the leading cause of death for young people in Norway. Several of these deaths are preventable if the patient receives the correct initial treatment. The trauma team is responsible for initial treatment of traumatized patients, and better team function could perhaps improve the outcome. The aim of this study was to obtain a deeper understanding of which human factors are important in the trauma team when treating trauma patients.

### **Methods:**

Twelve semi-structured interviews were conducted at four different hospitals of various sizes and with different trauma load. At each hospital we spoke with a nurse, an anaesthesiologist and a team leader (surgeon). The interviews were transcribed and analyzed using systematic text condensation according to the principals of Giorgi's phenomenological analysis as modified by Malterud.

### **Results:**

According to our informants, leadership is an essential component in trauma management. The ideal leader should be an experienced surgeon, have extensive knowledge of trauma care, communicate clearly and radiate confidence. Most interviewed team leaders, however, had little experience with trauma. They wanted more guidance and experienced personnel present when receiving trauma patients. A leader can be corrected if done in a considerate and respectful manner.

### **Conclusion:**

Norwegian trauma team members emphasized leadership as an essential factor for appropriate trauma team function. The leader should be experienced in trauma treatment. Paradoxically they all reported that trauma teams are frequently headed by inexperienced team leaders. Further steps should be taken to determine the reality of the situation.

## **Introduction**

Trauma is the leading cause of death in the first four decades of life<sup>1</sup> in Norway.

Esposito and colleagues have indicated that one out of four deaths caused by trauma can be prevented with better trauma care.<sup>2</sup> Chiara and colleagues found that 43 % of deaths caused by trauma were possible preventable. They also found that over 50 % of trauma patients received inappropriate treatment in hospital.<sup>3</sup> Most of the deaths occur in the admission phase and the best way to prevent these deaths is to improve the system for trauma treatment.<sup>4</sup>

The trauma team is a complex organisation which has to work smoothly in stressful situations. The number of team members and the condition of the traumatized patients create great challenges for the trauma team. In Norwegian hospitals there are no teams with constant members, and therefore people who are attending the team varies from one situation to the next. This variation contributes to the many challenges in team interaction. In some hospitals in Norway the resident in the Emergency department (ED) is the leader of the trauma team. This means that the team leader might be an inexperienced surgeon. There is also large variation between the hospitals in terms of trauma load and thus experience in handling traumatized patients. Hospitals vary in size from small hospitals with few traumatized patients to hospitals with up to 3 traumatized patients daily. Different programs have been created to educate trauma team members for such situations. The BEST Foundation: Better & systematic trauma care - is a Norwegian training model facilitating simulations for hospital trauma teams. The focus for this training program is communication, leadership and cooperation. Wisborg and colleagues have documented the effect of this training<sup>5</sup> and also pointed out the greatest challenges for teamwork<sup>6</sup>. The result suggests that the lack of communication and leadership were the main obstacles experienced by the team members during their last real trauma before the BEST-training program. We believe that to optimize training, it is important to get more knowledge concerning training goals.

The aim of this study was to obtain a deeper understanding of which human factors are important in the trauma team when treating trauma patients. We started out examining a number of different factors such as cooperation, communication, education and leadership. In the further analysis we have focused on leadership and its importance for appropriate trauma treatment.

## **Methods**

## **Approval**

The study has been approved by Norwegian Social Science Data Services (ref. 15820). The regional committee for medical research (Health Region East) was informed. The committee did not find any reason for approval.

## **Participants**

Our sampling strategy aimed at talking to team members of different professions, with a variety in trauma knowledge. It was also important for us to talk with teams from different sized hospitals. We have visited four hospitals; a small hospital with low trauma load, a medium sized hospital with medium trauma load, large hospital with low trauma load and a large hospital with high trauma load. This was done to get the most diversity in their experiences thus creating a broader picture. We contacted one person involved in trauma training, at each hospital, to get appointments with one nurse, one team leader and one anaesthesiologist. They all had to be involved in the trauma team.

## **Data collection**

We conducted 12 semi-structured interviews which were tape recorded. The two authors of this paper participated in all 12 interviews. We made an interview guide based on experiences from attending several trauma courses and observing the team in action. The guide was discussed and adjusted after each interview. Written informed consent was obtained and information about the study was given at the start of the interview.

## **Analysis**

All 12 interviews were transcribed verbatim. The transcribed data were read through several times by both authors and we then developed a coding frame for the analysis. Experiences concerning human factors in the trauma team were identified and used for systematic text condensation, according to the principals of Giorgis phenomenological analysis modified by Malterud<sup>7</sup>. The analysis followed 4 steps described by Frich<sup>8</sup>. (1) Reading all the material to get an overall impression, (2) identifying units of meaning representing different experiences, and coding of these units, (3) condensing and summarizing the contents of the coded groups (4) generalizing descriptions and concepts.

To support the validity of the data and the interpretation in this paper we have frequently read the interviews again during the analysis. We made a matrix where we plotted all the quotes to see if this really is representative of a trend among the informants. We searched PubMed and CINAHL to find other similar studies that might help to clarify our findings.

## **Results**

Several informants, independent of experience and profession, pointed out the importance of leadership. We grouped their descriptions of leadership in three categories: the successful leader, challenges and a team in conflict.

And most important of all is to have a defined leader who acts as a leader!

Experienced anaesthesiologist, large hospital with high trauma load

-What is important for you to feel secure in a trauma situation?

-I need to be comfortable with the leader and convinced that he solves his duties as a leader and that I recognize that the other team members carry out their responsibilities. First of all the leader is important. If he performs well, the team performs well.

Experienced anaesthesiologist, large hospital with low trauma load

Insufficient leadership was also pointed out as the reason for trauma treatment that failed.

### **The successful leader**

A quality that many team members appreciated in a leader was professional competence. The team leader had to be trustworthy to the team members. The informants emphasized that the leader must have a special interest in emergency medicine. It was also pointed out that good leadership skills can not compensate lack of trauma care knowledge. Several informants

mentioned that a leader with a high professional competence makes the team members confident. Some of the team members had bad experiences with inexperienced leaders.

The ability to radiate confidence and calmness was highlighted by several team members. One nurse said that if the leader seems confident she feels confident too. A young surgeon explained a situation where he experienced a leader who remained calm in a stressful situation. This made a big impression on him.

One informant described a situation where an ambulance delivered a patient suffering from ruptured abdominal aneurysm.

They (the surgeons) did their job, but there was no affection in the situation at all. It was extremely effective (...). For me that was a milestone. To see how experienced surgeons handle a very, very serious situation. And I thought if it is possible in this context to remain calm, it will always be possible to act normal in an urgent situation.

Inexperienced surgeon, small hospital with low trauma load

An experienced team leader said that during the treatment of traumatized patients all the team members are alert and therefore it is his job to remain calm.

Everyone is more alert (during trauma treatment) and it is my responsibility to remain calm. I think that to have a functional team, you need a team leader that is calm and not stressed. If you are “stressed” you will make people around you stressed, this creates insecurity.

Experienced team leader, large hospital with high trauma load

The informants appreciated leaders that communicate distinctly and clearly. There should not be any room for misunderstandings about what the leader means and what he wants the team members to perform. At the same time the team leader should listen to and trust his team.

An unsuccessful trauma situation:

The team leader was not distinct. It was not clear what findings he had and which decisions he made. When someone has to ask: What is the result of the investigation? What do you consider? Should we operate? In that situation you have to squeeze information out of the leader instead of him being clear with his decisions and considerations.

Experienced anaesthesiologist, medium sized hospital with  
medium trauma load

Most of the informants emphasised that a good leader needs to have an overview and see the totality of the situation. He has to help the process move forward and intervene if the process is going in the wrong direction. He needs to take responsibility and make decisions. The team members expect that the leader remain focused on what is important. Indecisive leaders were mentioned as the reason for unsuccessful trauma situations. An example was mentioned where the leader did not guide the team. The team leaders became focused on single procedures and not the overall wellbeing of the patient.

That (a good leader) is a person who by his presence – makes the process evolve – not by his own efforts, but through guiding the team where its needed – and intervening when necessary.

Experienced nurse, small hospital with low trauma load

## **Challenges**

Inexperienced team leaders often seemed in doubt whether or not they had the professional competence required for the given situation. They were also anxious about missing out on hidden, but serious injuries or indicated interventions. They explained that they did not get any experience in such decision making during their studies or internship. One team leader believed that there should always be an experienced surgeon in the ED, but admitted that this is not the case, and felt that this should people be aware of.

What makes you feel nervous about your position as a team leader?

If the trauma comes in at night, because then I am alone.

- Inexperienced team leader, medium sized hospital with  
medium trauma load

Inexperienced team leaders mentioned that it is a problem for them that they do not have experienced doctors around at night time. One surgeon mentioned his nervousness about performing a laparotomy at night time because his consultant was half an hour away from the

hospital. The absence of consultants is one of the reasons why surgeons find trauma surgery more stressful than elective surgery. They feel more alone in the trauma setting.

-You are more alone in a trauma setting!

-What makes you feel secure in a trauma situation?

-That's easy to answer! To have more experienced people than me in the team. A good anesthesiologist, confident nurses that know where the equipment is – that's most important to me.

- Inexperienced surgeon, small hospital with low trauma load

When we talked with team members other than team leaders about what made them confident in a trauma setting, several answered that the most important factor was the leader's competence. They became insecure if the surgeon was newly educated or if the team leader was an experienced surgeon with little knowledge about trauma surgery.

A confident surgeon can easily get transformed into an insecure team leader. An urologist is placed in the position as a team leader; in worst case scenario he has no competence in trauma care.

An experienced nurse, at large hospital with low trauma load

There are no required qualifications to become a team leader in Norway. An experienced surgeon found this unfair both for the patients and the team leaders. *“A surgeon who has never even inserted a thoracic drain can suddenly find himself in the position as leader of a trauma team”*.

### **A team in conflict**

All team members mentioned the importance of letting the leader keep his authority in a situation when he needs help from the others. It was emphasized that the team needs to strengthen the leader, thus feedback to him needs to be constructive and given with respect. Team members therefore prefer to formulate feedback as questions or proposals like. “What do you think about his blood pressure and pulse” “Should we take the patient to operating theatre (OT)?” It was important to the team members not to make the leader lose his face.



This would make it impossible for the leader to fulfill his role as the leader following the conflict. Team members reported that if they direct the leader in the wrong way they could destroy his confidence and the team's trust in him. One nurse described the difficulty in correcting the leaders, even when their decisions were clearly wrong.

If the anesthesiologist does it (direct the leader) in a positive way and is more educating than self promoting, it usually turns out all right. It should not be a problem at all. On the other hand, if the anesthesiologist has an arrogant attitude, he can destroy the leader completely.

Experienced nurse, medium hospital with medium trauma load

The team leaders felt always open to criticism from the team. They however wanted the feedback distinct and clear. An experienced surgeon told us that he is always ready for suggestions, but he was not always ready to discuss the suggestions in the trauma room. He emphasized the need for a clear command line. *"We have a command line, and that has to be respected by the rest of the team(... )In a team with an unstructured command line, the team members don't know who they should listen to, and they'll get confused"*. To an inexperienced surgeon, good leadership means listening to more experienced team members.

Inconsequential details can wait, but if team members have suggestions that can affect the immediate future, I expect them to speak out!

Inexperienced surgeon, small hospital with low trauma load

Some team members suggested that if the situation becomes too dysfunctional, a new leader should be appointed. Other members remember change of leadership as a bad experience. Others again had experienced team members who did not give the leader the opportunity to perform his role as a leader resulting in insecurity on the leader's behalf.

-Have you ever experienced that someone has taken over the leader's position? And did this create a pronounced change in the team structure?

-Its never been explicit, but its happened anyway. It doesn't promote effective teamwork, to tell the truth. It is not fair to the leader, and it creates insecurity in the team when it comes to interaction and communication. Who are you going to report to in that situation?

Experienced nurse, big hospital great trauma load

## Discussion

This study aimed at assessing which human factors are important in the trauma team when treating trauma patients. Several of our informants reported that leadership was one of the most important factors in appropriate trauma treatment. Lack of leadership was often given as a reason for dysfunctional teamwork. This phenomenon was confirmed in an earlier study performed in 2006.<sup>9</sup> The study describes how individually the leaders affect the trauma team and having ultimately responsibility for the team's success or failure.

Several of the inexperienced team leaders mentioned that they felt anxious when they were the sole surgeon in the emergency room. There are big expectations to the leader and through the interviews it seems like not all residents feel prepared for this task. This is described in a Canadian study where 49 % of the internal medicine residents felt inadequately trained to lead a cardiac arrest team<sup>10</sup>.

Major expectations seem to be resting on the leader. It is possible that the team members exaggerate the leader's importance. One could speculate if a confident team might compensate for a weak leader. If there is an experienced anesthesiologist in the trauma room it should be possible to share this responsibility. Dr. Baire underlines the importance of the subordinate's role in making their leader good. "Everyone has their blind spots!"<sup>11</sup>

Knowledge seems to make team leaders confident. Therefore it is not surprising that this is mentioned as important by several team members. Professional competence gives the leader authority. It will also give the leader a sense of confidence that might make it easier to live up to the expectations resting upon him. Nadel and colleagues showed that teaching pediatric residents in technical skills, made them more confident in their leadership.<sup>12</sup>

Several informants mentioned that the team should guide the team leader by focusing on the patient and not through direct criticisms. In this way, the leader can maintain his authority. Inadequate communication can make these discussions evolve to dysfunctional cooperation between different professions, as indicated in a study in London 2006<sup>13</sup>. Rhona Flin has written that leaders who are not corrected by team members (in her example a pilot and the co-pilot) may make catastrophic mistakes. She quotes a study where 37 plane accidents were

analyzed and in 31 out of these one crew member failed to detect and challenge another crew member's error, usually the captain's.<sup>14</sup> It seems like several of the team members think that guidance can ruin the leader's authority. A subtle way to help this is to focus on the patient without giving outspoken corrections. This can be in contradiction to the need of distinct communication.

## **Validity and Transferability**

The initial aim of our study was discovering what human factors are important in the trauma team when treating trauma patients. During the process of interviewing we decided that we wanted to focus mainly on how leadership influences the quality of the trauma team. The reason for this was that most team members held leadership in high regard. We therefore omitted some findings on the subjects such as communication, team work and training. We did this according to the method described by Malterud<sup>15</sup>.

This study explores trauma team members' experiences working in a trauma team. Talking about conflicts and co-workers may be uncomfortable to the informants. Therefore we cannot expect that the informants told us all their experiences. However, we do believe that since we were students and not employed by the hospital, it was easier for the informants to disclose their perspective.

We have found two papers concerning some of our findings, a Canadian study<sup>16</sup> that pointed out the problems with having inexperienced physicians as leaders of teams in stressful situations and an English study<sup>17</sup> that described challenges in teamwork and leadership in trauma management. These findings support the experiences reported by our participants.

Our sampling strategy allowed us to interview personnel with varying experience at different hospitals with varying trauma load. Therefore we think that our results are transferable to other trauma teams around in Norway. The findings might be interesting outside Norway as well.

The study was partly funded by the BEST-network. This might have given the informants the impression that we were looking for positive remarks about BEST and its training programs.

However, our study was aimed at what the team members found important in trauma teamwork and not at the need for or the quality of the training programs.

### **Implications/ What now?**

If a traumatized patient is sent to a hospital in Norway, he will be met by a team that finds experienced leaders as one of the key factors in successful trauma treatment. The team might be led by a junior resident who seeks experience in the team around him. We do not know if this is the reality in all Norwegian hospitals. A survey should be conducted to find how the situation really is among the 50 trauma hospitals.

If this is the reality in Norway, it should be changed. A solution would be to have a consultant guiding the young team leader. Due to lack of funding and personnel this might not be a viable option. Another solution is to provide all team leaders with sufficient training and education. Better qualified and more confident team leaders might enhance the teams' performance. This should be confirmed by further studies.

### **Author's contribution**

Magnus Hjortdahl and Amund H. Ringen have done all the data collection, analysis and the writing. Torben Wisborg and Anne-Cathrine Næss have read through all the data and supervised the analysis and writing. Torben Wisborg had the idea for this study.

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